Complete Summary

GUIDELINE TITLE

Screening for osteoporosis in postmenopausal women: recommendations and rationale.

BIBLIOGRAPHIC SOURCE(S)

Berg AO. Screening for osteoporosis in postmenopausal women: recommendations and rationale. Am J Nurs 2003 Jan;103(1):73-80; discussion 81. [33 references] PubMed

Screening for osteoporosis in postmenopausal women: recommendations and rationale. Am Fam Physician 2002 Oct 15;66(8):1430-2. PubMed

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Osteoporosis

GUIDELINE CATEGORY

Risk Assessment
Screening

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Obstetrics and Gynecology

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Health Care Providers
Nurses
Physician Assistants
Physicians
Students

GUIDELINE OBJECTIVE(S)

- To summarize the current U.S. Preventive Services Task Force (USPSTF) recommendations on screening for osteoporosis and the supporting scientific evidence
- To update the 1996 recommendations contained in the Guide to Clinical Preventive Services, Second Edition

TARGET POPULATION

- Postmenopausal women aged 65 and older
- Postmenopausal women aged 60 to 64 at increased risk for osteoporotic fractures

INTERVENTIONS AND PRACTICES CONSIDERED

1. Risk assessment using individual risk factors or instruments, such as the Osteoporosis Risk Assessment Instrument (ORAI), and the Simple Calculated Osteoporosis Risk Estimation (SCORE) tools
2. Bone mineral density (BMD) measurements using:
    - Dual-energy X-ray absorptiometry (DXA)
    - Quantitative ultrasonography (QUS)
    - Radiographic absorptiometry
    - Single energy x-ray absorptiometry
    - Peripheral dual-energy x-ray absorptiometry
    - Peripheral quantitative computed tomography

MAJOR OUTCOMES CONSIDERED

Screening

Sensitivity and specificity of screening interventions

Treatment

Effectiveness of treatment, measured by fracture reduction

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Note from the National Guideline Clearinghouse: A systematic evidence review was prepared for the Agency for Healthcare Research and Quality to be used by the U.S. Preventive Services Task Force. The Oregon Health & Science University, Evidence-based Practice Center (EPC) prepared the systematic evidence review. Nelson HD and Helfand M. Screening for Postmenopausal Osteoporosis. Rockville (MD); Agency for Healthcare Research and Quality; 2002 Sep. (Systematic evidence review; no. 17). (Electronic copies available from the: AHRQ Web site)

Literature Search Strategy

Relevant studies were identified from multiple searches of MEDLINE (1966 to May 2001), HealthSTAR (1975 to May 2001), and Cochrane databases, reference lists of systematic reviews, and experts. The search strategy is described in Appendix 1 of the companion systematic evidence review. The EPC reviewed a set of Cochrane meta-analyses of treatment trials presented at the National Institutes of Health Consensus Development Conference on Osteoporosis in March 2000. In addition, they sent letters to manufacturers of bone measurement devices requesting additional information about the performance of their instruments, but they received no new data.

Inclusion/Exclusion Criteria

Two reviewers read each abstract to determine its eligibility. The EPC included English-language abstracts that had original data about postmenopausal women and osteoporosis and that addressed screening, or the effectiveness of risk factor assessment, bone measurement testing, or treatment. Postmenopausal women were those who had experienced surgical or natural menopause, regardless of age. Women with pre-existing atraumatic fractures were not considered in the screening population because they already meet the WHO definition of osteoporosis. The EPC did not include studies of primary prevention of osteoporosis such as the role of nutrition, calcium consumption, and physical activity. They did not review known secondary causes of osteoporosis such as corticosteroid use and certain chronic diseases because these are beyond the scope of population screening. They also did not systematically review data describing the link between fractures and morbidity and mortality because this relationship has been previously established.

For studies of prediction, the EPC selected articles if they reported the relationship between risk factor assessment methods or bone measurement tests and bone density, bone loss, or fractures. To address treatment issues, we reviewed studies of hormone replacement therapy, selective estrogen receptor modulators (SERMs), and bisphosphonates. They focused on randomized controlled trials of current therapies reporting radiographically verified, nontraumatic fracture outcomes, because fractures are a stronger measure of effectiveness than bone density. Investigators read the full-text version of the retrieved papers and re-

applied the initial eligibility criteria. The EPC excluded articles if they did not provide sufficient information to determine the methods for selecting subjects and for analyzing data.

NUMBER OF SOURCE DOCUMENTS

Risk Factors

The initial literature search included 6,194 titles and abstracts about risk factors. Of these, 230 were reviewed, and 18 studies about risk factor assessment were included.

Bone Measurement

For bone measurement tests, 2,125 titles and abstracts were initially found, and 85 studies were reviewed.

Treatment

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

The U.S. Preventive Services Task Force (USPSTF) grades the quality of the overall evidence on a 3-point scale (good, fair, or poor).

Good

Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes.

Fair

Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of the individual studies; generalizability to routine practice; or indirect nature of evidence on health outcomes.

Poor

Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

Note: See the companion document titled "Current Methods of the U.S. Preventive Services Task Force: a Review of the Process" (Am J Prev Med 2001 Apr;20[3S]:21-35) for a more detailed description of the methods used to assess the quality and strength of the evidence for the three strata at which the evidence was reviewed.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Note from the National Guideline Clearinghouse (NGC): A systematic evidence review was prepared by the Oregon Health Sciences University, Evidence-based Practice Center (EPC) for the Agency for Healthcare Research and Quality (AHRQ) for use by the U.S. Preventive Services Task Force (USPSTF) (see the "Companion Documents" field).

After assessing the internal validity of individual studies, the Evidence-based Practice Center (EPC) staff created an outcomes table to summarize the number of hip and vertebral fractures prevented based on age-specific prevalence rates, and treatment effects obtained from results of the reviewed studies. They conducted a sensitivity analysis to determine the influence of risk factors on the number needed to screen.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Balance Sheets
Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

When the overall quality of the evidence is judged to be good or fair, the U.S. Preventive Services Task Force (USPSTF) proceeds to consider the magnitude of net benefit to be expected from implementation of the preventive service. Determining net benefit requires assessing both the magnitude of benefits and the magnitude of harms and weighing the two.

The USPSTF classifies benefits, harms, and net benefits on a 4-point scale: "substantial," "moderate," "small," and "zero/negative."

"Outcomes tables" (similar to 'balance sheets') are the USPSTF's standard resource for estimating the magnitude of benefit. These tables, prepared by the topic teams for use at USPSTF meetings, compare the condition specific outcomes expected for a hypothetical primary care population with and without use of the preventive service. These comparisons may be extended to consider only people of specified age or risk groups or other aspects of implementation. Thus, outcomes tables allow the USPSTF to examine directly how the preventive services affects benefits for various groups.

When evidence on harms is available, the topic teams assess its quality in a manner like that for benefits and include adverse events in the outcomes tables. When few harms data are available, the USPSTF does not assume that harms are small or nonexistent. It recognizes a responsibility to consider which harms are likely and judge their potential frequency and the severity that might ensue from implementing the service. It uses whatever evidence exists to construct a general confidence interval on the 4-point scale (e.g., substantial, moderate, small, and zero/negative).

Value judgments are involved in using the information in an outcomes table to rate either benefits or harms on the USPSTF's 4-point scale. Value judgments are also needed to weigh benefits against harms to arrive a rating of net benefit.

In making its determinations of net benefit, the USPSTF strives to consider what it believes are the general values of most people. It does this with greater confidence for certain outcomes (e.g., death) about which there is little disagreement about undesirability, but it recognizes that the degree of risk people are willing to accept to avert other outcomes (e.g., cataracts) can vary considerably. When the USPSTF perceives that preferences among individuals vary greatly, and that these variations are sufficient to make trade-off of benefits and harms a 'close-call', then it will often assign a C recommendation (see the "Recommendation Rating Scheme" field). This recommendation indicates the decision is likely to be sensitive to individual patient preferences.

The USPSTF uses its assessment of the evidence and magnitude of net benefit to make recommendations. The general principles the USPSTF follows in making recommendations are outlined in Table 5 of the companion document cited below. The USPSTF liaisons on the topic team compose the first drafts of the recommendations and rationale statements, which the full panel then reviews and edits. Recommendations are based on formal voting procedures that include explicit rules for determining the views of the majority.

From: Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow, CD, Teutsch SM, Atkins D. Current methods of the U.S. Preventive Services Task Force: a review of the process. Methods Work Group, Third U.S. Preventive Services Task Force. Am J Prev Med 2001 Apr;20(3S):21-35.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

The U.S. Preventive Services Task Force (USPSTF) grades its recommendations according to one of five classifications (A, B, C, D, or I), reflecting the strength of evidence and magnitude of net benefit (benefits minus harms).

A

The U.S. Preventive Services Task Force (USPSTF) strongly recommends that clinicians provide [the service] to eligible patients. (The USPSTF found good evidence that [the service] improves important health outcomes and concludes that benefits substantially outweigh harms.)

B

The U.S. Preventive Services Task Force (USPSTF) recommends that clinicians provide [the service] to eligible patients. (The USPSTF found at least fair evidence that [the service] improves health outcomes and concludes that benefits outweigh harms.)

C

The U.S. Preventive Services Task Force (USPSTF) makes no recommendation for or against routine provision of [the service]. (The USPSTF found at least fair evidence that [the service] can improve health outcomes but concludes that the balance of benefits and harms it too close to justify a general recommendation.)

D

The U.S. Preventive Services Task Force (USPSTF) recommends against routinely providing [the service] to asymptomatic patients. (The USPSTF found at least fair evidence that [the service] is ineffective or that harms outweigh benefits.)

I

The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to recommend for or against routinely providing [the service]. (Evidence that [the service] is effective is lacking, of poor quality, or conflicting and the balance of benefits and harms cannot be determined.)

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Peer Review. Before the U.S. Preventive Services Task Force makes its final determinations about recommendations on a given preventive service, the Evidence-based Practice Center and the Agency for Healthcare Research and Quality send a draft systematic evidence review to 4 to 6 external experts and to federal agencies and professional and disease-based health organizations with interests in the topic. They ask the experts to examine the review critically for accuracy and completeness and to respond to a series of specific questions about the document. After assembling these external review comments and documenting the proposed response to key comments, the topic team presents this information to the Task Force in memo form. In this way, the Task Force can consider these external comments and a final version of the systematic review before it votes on its recommendations about the service. Draft recommendations are then circulated for comment from reviewers representing professional societies, voluntary organizations and Federal agencies. These comments are

discussed before the whole U.S. Preventive Services Task Force before final recommendations are confirmed.

Recommendations of Others. Recommendations for osteoporosis screening from the following groups were discussed: National Osteoporosis Foundation (in collaboration with other professional organizations), American Association of Clinical Endocrinologists, U.S. National Institutes of Health Consensus Development Conference, and the Canadian Task Force on Preventive Health Care.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The U.S. Preventive Services Task Force grades its recommendations (A, B, C, D, or I) and the quality of the overall evidence for a service (good, fair, poor). The definitions of these grades can be found at the end of the "Major Recommendations" field.

The USPSTF recommends that women aged 65 and older be screened routinely for osteoporosis. The USPSTF recommends that routine screening begin at age 60 for women at increased risk for osteoporotic fractures (see Clinical Considerations for discussion of women at increased risk). B recommendation.

The USPSTF found good evidence that the risk for osteoporosis and fracture increases with age and other factors, that bone density measurements accurately predict the risk for fractures in the short-term, and that treating asymptomatic women with osteoporosis reduces their risk for fracture. The USPSTF concludes that the benefits of screening and treatment are of at least moderate magnitude for women at increased risk by virtue of age or presence of other risk factors.

The USPSTF makes no recommendation for or against routine osteoporosis screening in postmenopausal women who are younger than 60 or in women aged 60-64 who are not at increased risk for osteoporotic fractures. C recommendation.

The USPSTF found fair evidence that screening women at lower risk for osteoporosis or fracture can identify additional women who may be eligible for treatment for osteoporosis, but it would prevent a small number of fractures. The USPSTF concludes that the balance of benefits and harms of screening and treatment is too close to make a general recommendation for this age group.

Clinical Considerations

- Modeling analysis suggests that the absolute benefits of screening for osteoporosis among women aged 60-64 who are at increased risk for osteoporosis and fracture are comparable to those of routine screening in older women. The exact risk factors that should trigger screening in this age group are difficult to specify based on evidence. Lower body weight (weight <70 kg) is the single best predictor of low bone mineral density. Low weight and no current use of estrogen therapy are incorporated with age into the 3-

item Osteoporosis Risk Assessment Instrument (ORAI). There is less evidence to support the use of other individual risk factors (for example, smoking, weight loss, family history, decreased physical activity, alcohol or caffeine use, or low calcium and vitamin D intake) as a basis for identifying high-risk women under age 65. At any given age, African American women on average have higher bone mineral density (BMD) than white women and are thus less likely to benefit from screening. Additional characteristics of screening tools are discussed in the "Accuracy and Reliability of Screening Tests" section of the original guideline document.

- Among different bone measurement tests performed at various anatomical sites, bone density measured at the femoral neck by dual-energy x-ray absorptiometry (DXA) is the best predictor of hip fracture and is comparable to forearm measurements for predicting fractures at other sites. Other technologies for measuring peripheral sites include quantitative ultrasonography (QUS), radiographic absorptiometry, single energy x-ray absorptiometry, peripheral dual-energy x-ray absorptiometry, and peripheral quantitative computed tomography. Recent data suggest that peripheral bone density testing in the primary care setting can also identify postmenopausal women who have a higher risk for fracture over the short term (1 year). Further research is needed to determine the accuracy of peripheral bone density testing in comparison with dual-energy x-ray absorptiometry (DXA). The likelihood of being diagnosed with osteoporosis varies greatly depending on the site and type of bone measurement test, the number of sites tested, the brand of densitometer used, and the relevance of the reference range.
- Estimates of the benefits of detecting and treating osteoporosis are based largely on studies of bisphosphonates. Some women, however, may prefer other treatment options (for example, hormone replacement therapy, selective estrogen receptor modulators, or calcitonin) based on personal preferences or risk factors. Clinicians should review with patients the relative benefits and harms of available treatment options, and uncertainties about their efficacy and safety, to facilitate an informed choice.
- No studies have evaluated the optimal intervals for repeated screening. Because of limitations in the precision of testing, a minimum of 2 years may be needed to reliably measure a change in bone mineral density; however, longer intervals may be adequate for repeated screening to identify new cases of osteoporosis. Yield of repeated screening will be higher in older women, those with lower BMD at baseline, and those with other risk factors for fracture.
- There are no data to determine the appropriate age to stop screening and few data on osteoporosis treatment in women older than 85. Patients who receive a diagnosis of osteoporosis fall outside the context of screening but may require additional testing for diagnostic purposes or to monitor response to treatment.

Definitions:

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Poor

Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence supporting each recommendation is identified in the "Major Recommendations" field.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Effectiveness of Early Treatment

- No controlled studies have evaluated the effect of screening on fractures or fracture-related morbidity. The Task Force reviewed the evidence to determine whether treatment for osteoporosis or low bone density in asymptomatic patients reduced fractures.
- Available trials that reported fracture outcomes have examined the efficacy of bisphosphonates (alendronate and risedronate), estrogen, and selective estrogen receptor modulators (raloxifene) and calcitonin. A meta-analysis of 11 randomized trials involving a total of 12,855 women, found that alendronate significantly reduced vertebral fractures (relative risk [RR] 0.52, 95% confidence interval [CI] 0.43-0.65), forearm fractures (RR 0.48, 0.29-0.78), hip fractures (RR 0.63, 0.43-0.92), and other nonvertebral fractures (RR 0.51, 0.38-0.69). There were non-significant trends toward reduction in hip fractures. No randomized trial of treatment for osteoporosis has demonstrated an impact on mortality. One trial in women aged 70-79 with very low bone density (T-score less than -3) reported that risedronate reduced the risk for hip fracture (RR = 0.60, 95% CI 0.40-0.90).
- There are no direct comparisons of alendronate and estrogen or raloxifene that report fracture outcomes. Estrogen, either alone or with progestin, consistently improves bone density in randomized trials. The effects of estrogen and the selective estrogen receptor modulators on fractures are reviewed in more detail in a separate report [Nelson HD and Helfand M. Screening for Postmenopausal Osteoporosis. Rockville (MD); Agency for Healthcare Research and Quality; 2002 Sep. (Systematic evidence review; no. 17). Electronic copies available from the AHRQ Web site]. Only a few small randomized clinical trials of estrogen indicate mixed results for fracture outcomes, but these studies are methodologically limited. Observational studies report a 25%-30% reduction in the risk for hip fracture with estrogen use. A good-quality study of raloxifene reported a reduced risk for vertebral fractures (RR 0.59, 95% CI 0.50-0.70).

- The benefits of treating osteoporosis are larger in women at higher risk for fracture than in women at lower risk. The Fracture Intervention Trial (FIT) was conducted with 2 different groups of participants: 2,027 high-risk women who had T-scores of -1.6 or lower and pre-existing vertebral fractures, and 4,432 women with comparable T-scores but no pre-existing vertebral fracture. Over 3 years of treatment in high-risk women, alendronate reduced the risk for hip fracture (1.1% vs. 2.2 % in the placebo group; relative hazard [RH] 0.49 [0.23-.099]) and the risk for any clinical fracture (18.2% vs. 13.6%; RH 0.72 [0.58-0.90]). Among women with no pre-existing fracture, only the subgroup of patients who had a T-score less than -2.5 had a significant reduction in all clinical fractures from treatment, from 19.6% to 13.1% (RR 0.64; 0.50-0.82). Alendronate had no effect on fractures among lower risk women who had T-scores between -1.6 and -2.5. These results suggest that treatment will produce larger benefits in women with more risk factors for fracture, such as those who are older, have very low bone density, or have pre-existing vertebral fractures. The Fracture Intervention Trial, as well as other therapy trials, enrolled highly selected patients thus limiting the generalizability of their results to asymptomatic women detected in a typical primary care setting.
- There is little evidence regarding which patients are likely to benefit from screening and treatment. It is not known whether women who have a similar overall risk for fracture, but different bone densities, will benefit similarly from treatment. This uncertainty is clinically important because the lack of accepted criteria for initiating treatment remains a problem.
- To estimate the benefits of routine screening for women in different age groups, the USPSTF used estimates from recent studies to project the number of fractures that would be prevented over 5 years from screening and treatment of a hypothetical cohort of 10,000 postmenopausal women. For women aged 55-59, more than 4,000 would need to be screened to prevent 1 hip fracture and more than 1,300 to prevent 1 vertebral fracture. For women older than 60, the number needed to screen to prevent 1 hip fracture is 1,856 for women aged 60-64, 731 for women aged 65-69, and 143 for women aged 75-79. The benefits of screening improve substantially in older women because osteoporosis is both more prevalent and more likely to lead to a fracture in older women.
- In all age groups, the number needed to screen to prevent fractures is lower in women with important risk factors than it is in women who do not have risk factors. For women aged 60-64 who have a risk factor that increases the risk of osteoporosis by 100% and fracture by 70%, the number needed to screen is 1092 and the number need to treat is 72 to prevent 1 hip fracture. These numbers are comparable to those of women aged 65-69 without risk factors. These estimates rely on many assumptions that may not apply for specific populations.

Subgroups Most Likely to Benefit:

White, Asian, and Mexican-American women

POTENTIAL HARMS

Potential Adverse Effects of Screening and Treatment

- There are several potential harms of screening, although the empirical data for them are few. Women who undergo screening with bone density tests are more likely to begin hormone replacement therapy than women who do not. However, women who were diagnosed with osteoporosis after screening reported increased fears and anxiety in one study. Other potential harms may arise from inaccuracies and misinterpretations of bone density tests. Clinicians may have difficulty in using test results to provide accurate information to the patients because techniques used to measure bone density vary, test results are reported as T-scores, and information on how to integrate bone density results with other clinical predictors has not been clearly defined.
- In the alendronate treatment trials, gastrointestinal side effects occurred in about 25% of patients taking alendronate, but this was usually not higher (or only slightly higher) than the rate for placebo. Higher rates were observed among Medicare enrollees taking alendronate. In the Fracture Intervention Trial (FIT)-II trial, the rates of ulcer disease were higher in the alendronate treatment group, with 2.2 percent developing ulcer disease, as opposed to 1.2 percent in the placebo group ($p<0.05$). The long-term adverse effects of alendronate are unknown. Harms of hormone replacement therapy include venous thromboembolic events, endometrial cancer, and cholecystitis, all with relative risks of approximately 2.0. Both raloxifene and tamoxifen are associated with thromboembolic events, leg cramps, and hot flashes.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

The experiences of the first and second U.S. Preventive Services Task Force (USPSTF), as well as that of other evidence-based guideline efforts, have highlighted the importance of identifying effective ways to implement clinical recommendations. Practice guidelines are relatively weak tools for changing clinical practice when used in isolation. To effect change, guidelines must be coupled with strategies to improve their acceptance and feasibility. Such strategies include enlisting the support of local opinion leaders, using reminder systems for clinicians and patients, adopting standing orders, and audit and feedback of information to clinicians about their compliance with recommended practice.

In the case of preventive services guidelines, implementation needs to go beyond traditional dissemination and promotion efforts to recognize the added patient and clinician barriers that affect preventive care. These include clinicians' ambivalence about whether preventive medicine is part of their job, the psychological and practical challenges that patients face in changing behaviors, lack of access to health care or of insurance coverage for preventive services for some patients, competing pressures within the context of shorter office visits, and the lack of organized systems in most practices to ensure the delivery of recommended preventive care.

Neither the resources nor the composition of the U.S. Preventive Services Task Force equip it to address these numerous implementation challenges, but a number of related efforts seek to increase the impact of future U.S. Preventive Services Task Force reports. The U.S. Preventive Services Task Force convened

representatives from the various audiences for the Guide "Put Prevention Into Practice. A Step-by-Step Guide to Delivering Clinical Preventive Services: A Systems Approach" - clinicians, consumers and policy makers from health plans, national organizations and Congressional staff - about how to modify the content and format of its products to address their needs. With funding from the Robert Wood Johnson Foundation, the U.S. Preventive Services Task Force and Community Guide effort have conducted an audience analysis to further explore implementation needs. The Put Prevention into Practice initiative at the Agency for Healthcare Research and Quality (AHRQ) has developed office tools such as patient booklets, posters, and handheld patient mini-records, and a new implementation guide for state health departments.

Dissemination strategies have changed dramatically in this age of electronic information. While recognizing the continuing value of journals and other print formats for dissemination, the Agency for Healthcare Research and Quality will make all U.S. Preventive Services Task Force (USPSTF) products available through its Web site. The combination of electronic access and extensive material in the public domain should make it easier for a broad audience of users to access U.S. Preventive Services Task Force materials and adapt them for their local needs. Online access to U.S. Preventive Services Task Force products also opens up new possibilities for the appearance of the third edition of the Guide to Clinical Preventive Services. Freed from having to serve as primary repository for all of U.S. Preventive Services Task Force work, the next Guide may be much slimmer than the almost 1000 pages of the second edition.

To be successful, approaches for implementing prevention have to be tailored to the local level and deal with the specific barriers at a given site, typically requiring the redesign of systems of care. Such a systems approach to prevention has had notable success in established staff-model health maintenance organizations, by addressing organization of care, emphasizing a philosophy of prevention, and altering the training and incentives for clinicians. Staff-model plans also benefit from integrated information systems that can track the use of needed services and generate automatic reminders aimed at patients and clinicians, some of the most consistently successful interventions. Information systems remain a major challenge for individual clinicians' offices, however, as well as for looser affiliations of practices in network-model managed care and independent practice associations, where data on patient visits, referrals and test results are not always centralized.

RELATED QUALITY TOOLS

- Pocket Guide to Good Health for Adults

- A Step-by-Step Guide to Delivering Clinical Preventive Services: A Systems Approach

- Screening for Osteoporosis in Postmenopausal Women. What's New from the USPSTF.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Berg AO. Screening for osteoporosis in postmenopausal women: recommendations and rationale. Am J Nurs 2003 Jan;103(1):73-80; discussion 81. [33 references] PubMed

Screening for osteoporosis in postmenopausal women: recommendations and rationale. Am Fam Physician 2002 Oct 15;66(8):1430-2. PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 2002 Sep 17)

GUIDELINE DEVELOPER(S)

United States Preventive Services Task Force - Independent Expert Panel

GUIDELINE DEVELOPER COMMENT

The U.S. Preventive Services Task Force (USPSTF) is a Federally-appointed panel of independent experts. Conclusions of the USPSTF do not necessarily reflect policy of the U.S. Department of Health and Human Services (DHHS) or DHHS agencies.

SOURCE(S) OF FUNDING

United States Government

GUIDELINE COMMITTEE

U.S. Preventive Services Task Force (USPSTF)

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Task Force Members: Alfred O. Berg, MD, MPH (Chair); Janet D. Allan, PhD, RN, CS, FAAN (Vice-chair); Paul Frame, MD; Charles J. Homer, MD, MPH; Mark S. Johnson, MD, MPH; Jonathan D. Klein, MD, MPH; Tracy A. Lieu, MD, MPH; Cynthia D. Mulrow, MD, MSc; Tracy C. Orleans, PhD; Jeffrey F. Peipert, MD, MPH; Nola J. Pender, PhD, RN, FAAN; Albert L. Siu, MD, MSPH; Steven M. Teutsch, MD, MPH; Carolyn Westhoff, MD, MSc; Steven H. Woolf, MD, MPH.

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The U.S. Preventive Services Task force has an explicit policy concerning conflict of interest. All members and evidence-based practice center (EPC) staff disclose at each meeting if they have an important financial conflict for each topic being discussed. Task Force members and EPC staff with conflicts can participate in discussions about evidence, but members abstain from voting on recommendations about the topic in question.

From: Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow, CD, Teutsch SM, Atkins D. Current methods of the U.S. Preventive Services Task Force: a review of the process. Methods Work Group, Third U.S. Preventive Services Task Force. Am J Prev Med 2001 Apr;20(3S):21-35.

GUIDELINE STATUS

This is the current release of the guideline.

This release updates a previously published guideline: U.S. Preventive Services Task Force. Screening for postmenopausal osteoporosis. In: Guide to clinical preventive services. 2nd ed. Baltimore (MD): Williams & Wilkins; 1996.

GUIDELINE AVAILABILITY

Electronic copies: Available from the U.S. Preventive Services Task Force (USPSTF) Web site. Also available from the Annals of Internal Medicine Online and the National Library of Medicine's Health Services/Technology Assessment Text (HSTAT) Web site.

Print copies: Available from the Agency for Healthcare Research and Quality Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

Evidence Reviews:

- Nelson HD, Helfand M, Woolf SH, Allan JD. Screening for postmenopausal osteoporosis: A review of the evidence for the US Preventive Services Task Force. Ann Intern Med. 2002;137:529-41. Electronic copies available from the

Agency for Healthcare Research and Quality (AHRQ) Web site. Also available from the Annals of Internal Medicine Online.

- Nelson HD and Helfand M. Screening for Postmenopausal Osteoporosis. Rockville (MD); Agency for Healthcare Research and Quality; 2002 Sep. (Systematic evidence review; no. 17). Electronic copies available from the AHRQ Web site.

Background Articles:

- Woolf SH, Atkins D. The evolving role of prevention in health care: contributions of the U.S. Preventive Services Task Force. Am J Prev Med 2001 Apr;20(3S):13-20.
- Harris RP, Helfand M, Woolf SH, Lohr KN, Mulrow, CD, Teutsch SM, Atkins D. Current methods of the U.S. Preventive Services Task Force: a review of the process. Methods Work Group, Third U.S. Preventive Services Task Force. Am J Prev Med 2001 Apr;20(3S):21-35.
- Saha S, Hoerger TJ, Pignone MP, Teutsch SM, Helfand M, Mandelblatt. The art and science of incorporating cost effectiveness into evidence-based recommendations for clinical preventive services. Cost Work Group of the Third U.S. Preventive Services Task Force. Am J Prev Med 2001 Apr;20(3S):36-43.

Electronic copies: Available from U.S. Preventive Services Task Force (USPSTF) Web site.

Additional Implementation Tools:

- A step-by-step guide to delivering clinical preventive services: a systems approach. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ), 2001. 189 p. (Pub. No. APPIP01-0001). Electronic copies available from the AHRQ Web site.

  Print copies: Available from the Agency for Healthcare Research and Quality Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

- The Preventive Services Selector, an application for Palm Pilots and other PDA's, is also available from the AHRQ Web site.
- Screening for osteoporosis in postmenopausal women. What's new from the USPSTF?. Rockville (MD): Agency for Healthcare Research and Quality; 2002 Sep. Electronic copies: Available from USPSTF Web site.

PATIENT RESOURCES

The following is available:

- The Pocket Guide to Good Health for Adults. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2003.

Electronic copies: Available from the U.S. Preventive Services Task Force (USPSTF) Web site. Copies also available in Spanish from the USPSTF Web site.

Print copies: Available from the Agency for Healthcare Research and Quality (AHRQ) Publications Clearinghouse. For more information, go to http://www.ahrq.gov/news/pubsix.htm or call 1-800-358-9295 (U.S. only).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

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